

IN THE CLAIMS

1-14. (Cancelled).

15. (New) A method of handing-off a mobile terminal communicating with a first radio head over a first communication channel, the method comprising:

identifying a target radio head to hand-off the mobile terminal;

determining if one or more neighbor radio heads would interfere with communications between the mobile terminal and the target radio head on the first communication channel;

performing a soft-handoff to the target radio head if the one or more neighbor radio heads would not interfere with the communications on the first communication channel; and

performing a hard-handoff to the target radio head if the one or more neighbor radio heads would interfere with the communications on the first communication channel.

16. (New) The method of claim 15 wherein determining if one or more neighbor radio heads would interfere with communications between the mobile terminal and the target radio head comprises measuring the power of the mobile terminal at the radio heads.

17. (New) The method of claim 15 wherein determining if one or more neighbor radio heads would interfere with communications between the mobile terminal and the target radio head comprises:

determining a signal attenuation between the radio heads; and

determining whether a signal from the any of the neighbor radio heads would interfere with communications between the target radio head and the mobile terminal on the first communication channel.

18. (New) The method of claim 17 wherein determining the signal attenuation between the radio heads is based on the geography of a virtual single cell wireless communication network and the layout of the radio heads.

19. (New) The method of claim 17 wherein determining the signal attenuation is based on periodic measurements of signals between the radio heads.

a 20. (New) The method of claim 15 wherein performing a soft-handoff comprises assigning the first communication channel to the target radio head to communicate with the mobile terminal.

21. (New) The method of claim 15 wherein performing a hard-handoff comprises assigning a second communication channel to the target radio head to communicate with the mobile terminal.

22. (New) A method of handing-off a mobile terminal communicating with a first radio head over a first frequency, the method comprising:

- identifying a target radio head to hand-off the mobile terminal;
- determining if one or more neighbor radio heads would interfere with communications between the mobile terminal and the target radio head on the first frequency;
- assigning the first frequency to the target radio head if the one or more neighbor radio heads would not interfere with the communications on the first frequency; and
- assigning a second frequency to the target radio head if the one or more neighbor radio heads would interfere with the communications on the first frequency.

23. (New) The method of claim 22 wherein determining if one or more neighbor radio heads would interfere with communications between the mobile terminal and the target radio head comprises measuring the power of the mobile terminal at the radio heads.

24. (New) The method of claim 22 wherein determining if one or more neighbor radio heads would interfere with communications between the mobile terminal and the target radio head comprises:

- determining a signal attenuation between the radio heads; and
- determining whether a signal from the any of the neighbor radio heads would interfere with communications between the target radio head and the mobile terminal on the first frequency.

25. (New) The method of claim 24 wherein determining the signal attenuation between the radio heads is based on the geography of a virtual single cell wireless communication network and the layout of the radio heads.

26. (New) The method of claim 24 wherein determining the signal attenuation is based on periodic measurements of signals between the radio heads.

27. (New) The method of claim 22 wherein assigning the first frequency comprises performing a soft-handoff.

28. (New) The method of claim 22 wherein assigning the second frequency comprises performing a hard-handoff.

29. (New) A virtual single cell wireless communication network comprising:

a plurality of radio heads, each of which is operable to communicate on one or more communication channels; and

a controller to control the plurality of radio heads and configured to:

identify a target radio head to hand-off the mobile terminal;

determine if one or more neighbor radio heads would interfere with communications between the mobile terminal and the target radio head on a first communication channel;

perform a soft-handoff to the target radio head if the one or more neighbor radio heads would not interfere with the communications on the first communication channel; and
perform a hard-handoff to the target radio head if the one or more neighbor radio heads would interfere with the communications on the first communication channel.

30. (New) The network of claim 29 wherein the controller is further configured to measure the power of the mobile terminal at the one or more neighbor radio heads.

31. (New) The network of claim 29 wherein the controller is further configured to:

determine a signal attenuation between the one or more neighbor radio heads; and

determine whether a signal from the any of the neighbor radio heads would interfere with communications between the target radio head and the mobile terminal on the first communication channel.

32. (New) A controller to control a plurality of radio heads in a virtual single cell wireless communication network comprising:

memory; and

a processor configured to:

identify a target radio head to hand-off the mobile terminal;

determine if one or more neighbor radio heads would interfere with communications

between the mobile terminal and the target radio head on a first frequency;

assign the first frequency to the target radio head if the one or more neighbor radio

heads would not interfere with the communications on the first frequency; and

assign a second frequency to the target radio head if the one or more neighbor radio

heads would interfere with the communications on the first frequency.

33. (New) The controller of claim 32 wherein the processor is further configured to store indications of interference between the one or more neighbor radio heads in the memory.

34. (New) The controller of claim 32 wherein the processor is further configured to measure the power of the mobile terminal at the one or more neighbor radio heads.

35. (New) The controller of claim 32 wherein the processor is further configured to:

determine a signal attenuation between the one or more neighbor radio heads; and

determine whether a signal from the any of the neighbor radio heads would interfere

with communications between the target radio head and the mobile terminal on the

first communication channel.